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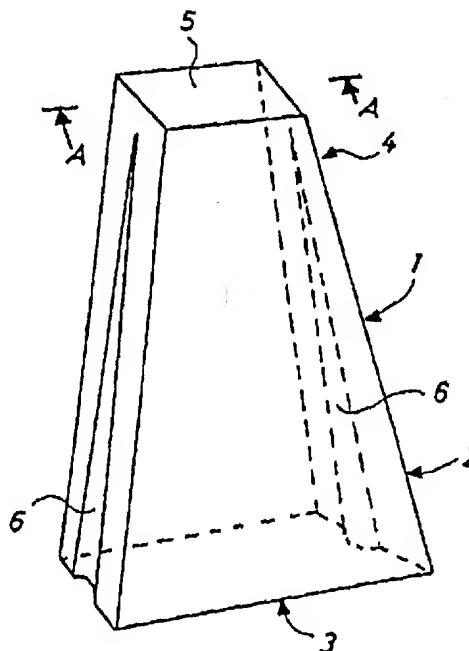
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(21) International Application Number: PCT/SI00/00011 (22) International Filing Date: 17 May 2000 (17.05.00) (30) Priority Data: P-9900118 17 May 1999 (17.05.99) SI (71)(72) Applicants and Inventors: ŠUŠTERIČ, Mitja [SI/SI]; Trubarjeva 17, 2000 Maribor (SI), TERČELJ SCHWEIZER, Robert [SI/SI]; Kočenska 11, 1113 Ljubljana (SI). (74) Agent: PIPAN, Marjan; Kotnikova 5, 1000 Ljubljana (SI).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>

(54) Title: MANUAL CLEANING SPONGE

(57) Abstract

The subject matter of the invention is a deaning sponge which allows for simple and efficient dish-washing, especially of glasses, cups and narrow and deep utensils. The cleaning sponge, subject matter of the invention, having a body (1) comprising a bottom (3) and an uprising side face or faces (2), which at least partially comprises a substantially tapered portion (4) having diminishing cross-dimensions in the direction facing away from the bottom (3).



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MANUAL CLEANING SPONGE

5 The subject matter of the invention is a cleaning sponge which allows simple and efficient dish-washing, especially of glasses, cups and narrow and deep dishes. The invention is ranked in the class A47L 13/16 of the classification of patents.

 The problem which cannot be efficiently solved with the existing
10 versions of cleaning sponges and similar devices is that of easy and effective washing of narrow and deep dishes, as well as glasses and cups, and efficient cleaning of the edges of glasses, cups, etc.

 Hand washing of dishes with the existing commercial varieties of sponges poses a problem with deep and narrow dishes, and especially
15 fragile glasses and cups. The existing sponges, which are too short to reach to the bottom of deeper and narrower dishes, must be squeezed and pressed into the vessel and then turned with the finger-tips or a suitable object (handles of tableware, etc.) to be able to wash the dish bottom thoroughly. Such procedure is also impractical for those with long
20 nails, and turning the squeezed sponge with finger-tips may also be dangerous in the case of fragile dishes, since the sponge, pressed in this way, cannot easily be rotated inside the dish (glass). If greater pressure is

applied, there may be a danger of injury from the breakage of, for instance, a glass-rim.

Edges of dishes, glasses and cups are also difficult to clean with ordinary sponges; for simultaneous cleaning of the outside and the inside
5 edge of a dish, the sponge must be bent first and then pressed around the edge of the dish, while rubbing it. With a curved sponge we usually cannot clean narrow utensils because of the thickness of the sponge.

The cleaning sponge, which is the subject matter of invention, has a conoidal body (in the form of a cone, pyramid ...), where one end plane, e.
10 g. the bottom, is wider. and the opposite plane, e.g. the top surface is narrower. For easier cleaning of edges an incision has been made in the body.

The cleaning sponge will be explained in more detail in the main version and in the corresponding figures, which present:

15

Figure 1: cleaning sponge, subject of invention, in basic version, axisymmetric view;

Figure 2: variants of cleaning sponge, subject of invention, in axisymmetric view;

20 **Figure 3:** cross-section A-A of the cleaning sponge, subject of invention, with an incision.

Figure 1 presents an axisymmetric view of the cleaning sponge, in the main version. The body (1) of the sponge passes from a wider, grasping portion (2) on the lower side to the bottom (3) in the form of a rectangular plane. The wider gripping part (2) serves as a good sponge grip during usage. The body of the sponge (1) is narrowed at the top and passes into a cone-shaped upper portion (4), which may end in the upper part (5) in the shape of a rectangular plane.

The bottom (3) and the upper part (5) may also have the shape of a round plane, which does not limit the applicability of the proposed invention.

In one or both narrower longitudinal planes of the body (1) of the sponge, there may be a groove (6) in the form of a semi-circular slot ending in a point towards the top of the body (1). The groove (6) permits both, a better grip of the body (1) of the sponge, and directs the superfluous water, which is not absorbed by the sponge itself during washing.

Figure 2 shows variants of the cleaning sponge, which is subject of invention, in axisymmetric view. Thus the body of the sponge (1) may pass into a cone-shaped upper part (4), which is rounded off, or the cleaning sponge may have a body (1) shaped ergonomically, in an irregular prismatic form.

The surface of the body (1) of the sponge may be level, uneven, rippled with inclination, indented and/or interrupted, or grooved. The bottom (3)

and the upper part (5) of the sponge may also be coated with addition of abrasive materials or abrasive layer, which allows both, for a better grip and for more efficient cleaning.

The body (1) of the sponge may have an incision (7) on one or several
5 spots, which enables the cleaning of edges of glasses, plates and cups. The incision itself or the incisions are so designed that the inner structure of the sponge does not keep on tearing during usage.

The advantages of the proposed version of the cleaning sponge are seen above all in the easier washing of narrow and deep utensils, since
10 the sponge can easily turn inwards, as it is not compressed. Exertion of less force while using the sponge, which is not squeezed, results also in lesser probability of damage, especially to edges of glasses and tiny cups. Incisions made in the sponge also enable simultaneous cleaning of the outside and the inside edge of washed-up dishes, thus easing and
15 simplifying work and reducing the risk of cuts on chipped glasses and dishes.

The shape of the invented sponge, illustrated in Figures 1 and 2 allows for the washing of deep utensils with its cone-shaped upper portion (4) and top part (5), and of smaller surfaces with its lower gripping part (2) or
20 wider shaped bottom (3), and of larger surfaces with the side of the body (1) itself, which is longer than in the ordinary sponge. So the work is performed more quickly and safely.

CLAIMS

- 5 1. Cleaning sponge having a body (1) comprising a bottom (3) and an
uprising side face or faces (2),
characterized in that
at least partially it comprises a substantially tapered portion (4) having
diminishing cross-dimensions in the direction facing away from the
10 bottom (3).
2. Cleaning sponge according to claim 1,
characterized in that
the bottom (3) has a substantially circular circumference.
- 15 3. Cleaning sponge according to claim 1,
characterized in that
the bottom (3) is shaped substantially polygonal.
- 20 4. Cleaning sponge according to claim 1,
characterized in that
the bottom (3) is shaped substantially rectangular.
5. Cleaning sponge according to claim 1,
25 **characterized in that**

the bottom (3) is shaped substantially triangular.

6. Cleaning sponge according to any one of claims 1-5,

characterized in that

5 the body (1) is truncated on the side facing away from the bottom (3).

7. Cleaning sponge according to claim 6,

characterized in that

the truncation is oblique.

10

8. Cleaning sponge according to any one of claims 1-5

characterized in that

the body (1) is round off on the side facing (2) away from the bottom
(3).

15

9. Cleaning sponge according to any one of the previous claims,

characterized in that

the bottom (3) has round off corners forming a transition to the side
face or faces (2).

20

10. Cleaning sponge according to any one of the previous claims,

characterized in that

the side face or faces (2) comprise two opposing grooves (6) extending over at least a part of said side face or faces (2).

11. Cleaning sponge according to claim 10,

5 **characterized in that**

the bottoms (3) of the opposing grooves (6) have a constant distance.

12. Cleaning sponge according to any one of the previous claims,

characterized in that

10 the body (1) shows at least one slit (7) near the bottom (3).

13. Cleaning sponge according to claim 10 or 11 and 12,

characterized in that

the slit (7) is positioned in one the opposing grooves (6).

15

14. Cleaning sponge according to any one of claims 10-13,

characterized in that

the grooves (6) are shaped substantially semi-circular.

20 15. Cleaning sponge according to any one of the previous claims,

characterized in that

the body (1) has an abrasive portion or layer on at least part of the side face or faces (2).

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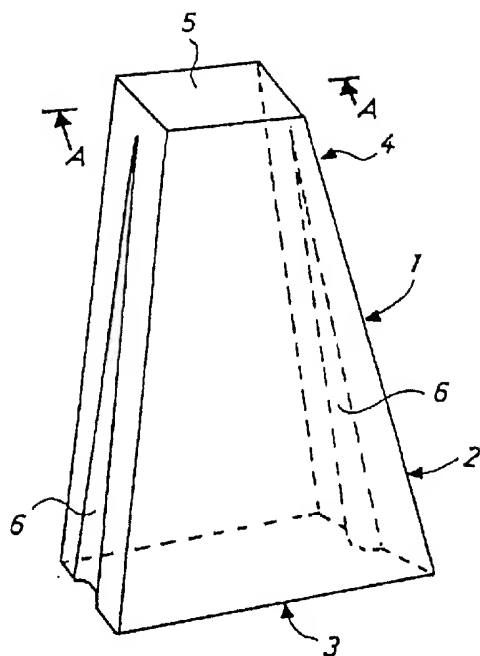


FIGURE 1

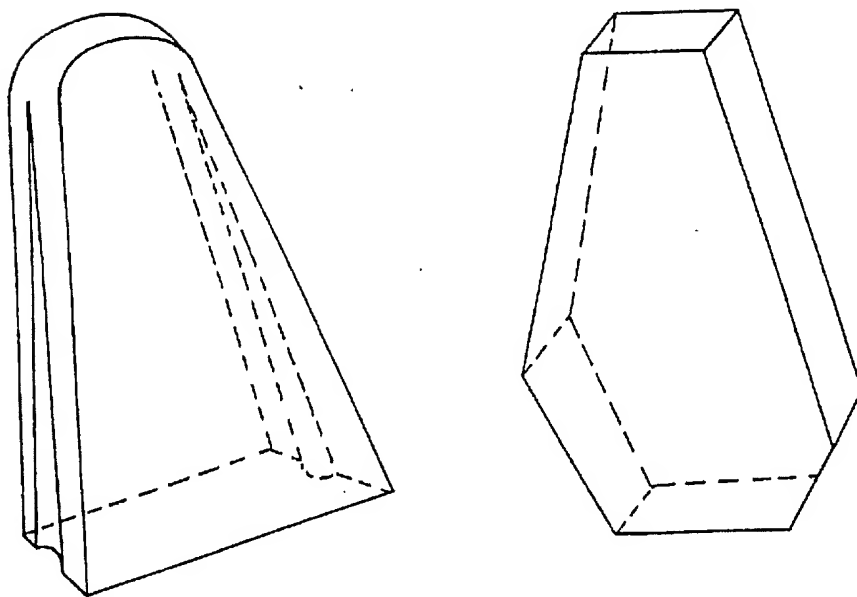


FIGURE 2

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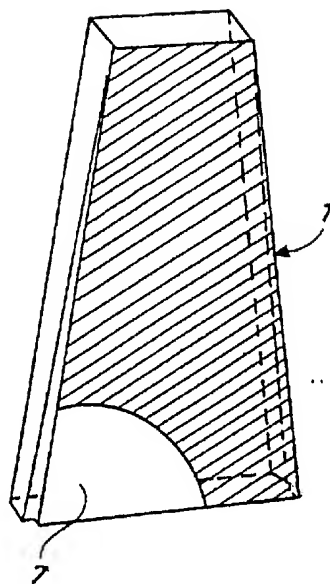


FIGURE 3